of inactive renin is a potentially rewarding area for research. If inactive renin is not activated in plasma, why should it be there at all?

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Management of nail-bomb injuries[1]

Until recently, we in the UK have prided ourselves on our high degree of civilization and we have regarded the surgical reports from the USA and elsewhere on extensive experiences in dealing with civilian gunshot wounds with some degree of superiority. Indeed, over the past 21 years, my own unit at Westminster Hospital, in the very centre of the metropolis, has admitted a total of 4 patients with gunshot wounds – an experience that many hospitals on the other side of the Atlantic Ocean could collect on one peaceful Saturday night.

Unfortunately, the scene has changed recently. Although gunshot wounds fortunately are still uncommon in the UK, the incidence of stab injuries is on the increase and acts of terrorism have now come to our major cities. Quite apart from our colleagues in Northern Ireland, surgeons at major provincial centres, as well as in the centre of London, have now had to deal with major bomb incidents and it behoves every one of us to ensure that his hospital is well prepared for such a disaster.

At Westminster Hospital we had previously dealt with a number of minor terrorist bomb incidents, but on two separate occasions in 1981 and 1982 a total of 29 casualties were admitted as a result of terrorist nail bombs. These are explosive devices packed around with long nails, which produce severe low-velocity injuries, both from the nails themselves and from fragments of casing, compounded by associated damage due to blast and to burns.

The first episode occurred on 10 October 1981. The target was a bus containing Irish Guardsmen near Chelsea Barracks, but victims included adjacent pedestrians. Twenty-four patients were admitted. One woman was found to be dead on arrival due to a penetrating wound of the heart. Eleven more required major surgery, including 2 children with extensive lacerations. Two patients were suffering from shock but had no major injuries, and the remaining 10 patients required suture of lacerations in Casualty and were allowed home after a short time in hospital.

Of the patients requiring major surgery, 3 had compound injuries to the skull, one of which was overwhelming, and this soldier died on the third postoperative day. The 2 others recovered, although one also required enucleation of an eye. Other injuries included a traumatic haemothorax and a laceration of the brachial artery which was treated successfully by a vein-patch repair.

[1]Based on paper read to Section of Surgery, 2 February 1983

0141–0768/83/090724–02/$01.00/0

The second incident occurred on 20 July 1982 as a result of a bomb explosion in Hyde Park. On this occasion there were 5 admissions. Two soldiers had overwhelming compound fractures of the skull. One of these was a horrendous injury in which the nail bomb entered the right temporal region, transected the brain and came to lodge beneath the temporoparietal skull on the opposite side. Both these young men died shortly after surgery. One soldier had superficial lacerations and burns; one woman civilian (a nurse) had a traumatic amputation of a foot, multiple lacerations of the face, trunk and limbs and extensive burns; and a young woman sustained multiple limb lacerations.

The surgical principles employed were based on war-time and Northern Ireland experience. Head wounds were treated by narrow excision of the skin edges, removal of bone fragments and suction debridment of pulped brain, followed by primary suture of the scalp. One extensive scalping injury was treated by delayed skin grafting. Facial injuries were narrowly excised and treated by primary suture. Soft-tissue injuries elsewhere were excised, dressed with dry gauze and then treated by delayed primary suture on the fifth day. All obtained excellent healing with no sepsis. Penicillin and antitetanus toxoid were used as prophylactics.

It is vital that every general hospital should have a major accident procedure which is carefully prepared and carefully rehearsed. In our own hospital the plan details the duties of every member of the team, including such key persons as the telephonists, blood transfusion technicians, etc., as well as the nursing, administrative, surgical and anaesthetic staff. From the surgical point of view it is important for a senior surgeon to take over as consultant in charge, and he will have with him the Senior Nursing Officer on duty and an Administrator. The ambulance authority may request that he should despatch a mobile team to the site of the incident and, of course, the composition of such a team as well as its equipment must be carefully planned and rehearsed.

The consultant surgeon in charge has the important task of assessing the casualties on their arrival in reception and ensuring their documentation. We have special documentation packs available which are prenumbered, since in many cases it may be difficult at first to establish the identification of unconscious victims. It is the surgeon's duty to prepare the priority list of patients for theatre and to inform the operating theatre teams of what they have to expect.

Advance planning must include procedures for clearing wards, alerting operating theatres, preparing an information centre for relatives and mortuary accommodation. In a major incident there is no shortage of volunteers. Off-duty nurses, doctors and other personnel come streaming into the hospital and it is useful to allocate one trained nurse to be responsible for each individual casualty, thus ensuring smooth continuity of treatment.

It was a privilege to be associated with the doctors, nurses and ancillary staff dealing with these episodes. There had been very careful planning ahead of time and, in the event, this paid off handsomely.

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